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| Notice of Allowability | Application No. | Applicant(s) | |
| | 10/088,226 | ALDRIDGE ET AL. | |
| | Examiner | Art Unit | |
| | Dalei Dong | 2879 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 3/5/2004.
2. ☒ The allowed claim(s) is/are 12-19 and 21-25.
3. ☒ The drawings filed on 19 March 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gary R. Edward on March 5, 2004.

The application has been amended as follows:

Mark up Version

- Claim 12. (Currently Amended) A composite comprising: an optical transmission means embedded within a layer of composite material; a high quality optical interface surface provided within the composite material in connection with the optical transmission means, the optical interface surface providing a means for optical connection to the transmission means from outside the composite material; [and] a micro-substrate embedded within the composite material on which an optical processing means is provided and secured to the optical transmission means, the optical processing means being optically connected to the optical transmission means for processing light to and from the optical transmission means and for providing the optical interface surface; locating means for locating position of the high-quality optical interface surface from an exterior of the composite material, said locating means comprising a detectable position marker embedded within the

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composite material; and a depth marker provided by the micro-substrate; wherein the depth marker comprises the position marker.

Claim 20. (Cancelled)

Clean Version

Claim 12. (Currently Amended) A composite comprising: an optical transmission means embedded within a layer of composite material; a high quality optical interface surface provided within the composite material in connection with the optical transmission means, the optical interface surface providing a means for optical connection to the transmission means from outside the composite material; a micro-substrate embedded within the composite material on which an optical processing means is provided and secured to the optical transmission means, the optical processing means being optically connected to the optical transmission means for processing light to and from the optical transmission means and for providing the optical interface surface; locating means for locating position of the high-quality optical interface surface from an exterior of the composite material, said locating means comprising a detectable position marker embedded within the composite material; and a depth marker provided by the micro-substrate; wherein the depth marker comprises the position marker.

Claim 20. (Cancelled)

Allowable Subject Matter

2. Claims 12-19 and 21-25 are allowed.
3. The following is an examiner's statement of reasons for allowance: the prior art of record taken alone or in combination fails to teach or suggest a composite comprising: an optical transmission means embedded within a layer of composite material; a high quality optical interface surface provided within the composite material in connection with the optical transmission means, the optical interface surface providing a means for optical connection to the transmission means from outside the composite material; a micro-substrate embedded within the composite material on which an optical processing means is provided and secured to the optical transmission means, the optical processing means being optically connected to the optical transmission means for processing light to and from the optical transmission means and for providing the optical interface surface; locating means for locating position of the high-quality optical interface surface from an exterior of the composite material, said locating means comprising a detectable position marker embedded within the composite material; and a depth marker provided by the micro-substrate; wherein the depth marker comprises the position marker.

The prior art of record teaches a composite comprising an optical transmission means embedded within a layer of composite material and a high quality optical interface surface and a micro-substrate. However, the prior art of record taken alone or in combination fails to teach or suggest locating means for locating position of the high-quality optical interface surface from an exterior of the composite material, and the

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locating means comprising a detectable position marker embedded within the composite material; and a depth marker provided by the micro-substrate; wherein the depth marker comprises the position marker in order to provide a easy, efficient and precise manufacturing process.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following prior art are cited to further show the state of the art of composition of a composite.

U.S. Patent No. 5,253,310 to Delbare.

U.S. Patent No. 6,257,771 to Okayasu.

U.S. Patent No. 6,259,841 to Bhagavatula.

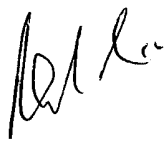
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D.D.
April 8, 2004



NIMESHKUMAR D. PATEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY